



# Ford Transit 148 EXT HSLD Rack Installation Manual

Date: 1/26/24 Revision: 2 \*\*\*Use this Manual for Racks shipped Middle of 2023 & Later\*\*\* Hidden 15 Series 8020 support rails make this rack stout and give you full length adjustability options

Low profile narrow solar cross bars support your panels without wasting valuable rack space

> Rack comes with 1 x 15 Series 8020 cross bar

Comes with 4 cross bars to install 2 solar panels

Rubber bulb seal prevents air from going under your wind fairing \*Bulb seal not shown on this image\*

Unaka's original bi-directional wind fairing looks great and deflects air up and over your rack and solar panels. Low Profile Precision Cut Aluminum Side Plates that match the profile of your van

### Safety and PPE

**Ladders:** Installation of this roof rack requires two ladders for two people to help with the installation. Make sure that your ladders are tall enough, and that you have a level area to use them on. Accessing the roof of your van will put you at extreme risk to potential falls which can result in injury or death.

Warning: Ladders are dangerous and should only be used with appropriate training. Incorrect use of ladders can result in injury or death.

**Fall Protection:** Accessing the roof of your van will put you at extreme risk to potential falls which can result in injury or death. Appropriate fall protection should be used when accessing your van roof. For general use situations, OSHA requires that fall protection be provided at elevations of four feet in general industry workplaces.

### **Required Tools**

# **Required Tools**

- 1 to 2 tall sturdy ladders
- Standard set of box wrenches
- Standard socket set
- Torque Wrench

The items below are only required if the Ford Transit roof mounting holes are misaligned in the van frame

- Metal file and or sandpaper (for cleaning holes in van roof after drilling)
- Primer and paint (to protect holes after drilling)

# Loctite & Anti-seize

A small tube of Blue Loctite 242 and Loctite anti-seize are provided with each kit. Follow manufactures recommendation for application and safety.

Blue Loctite 242

• Apply this to any bolt that is not used with a nylock nut

Loctite Anti-seize

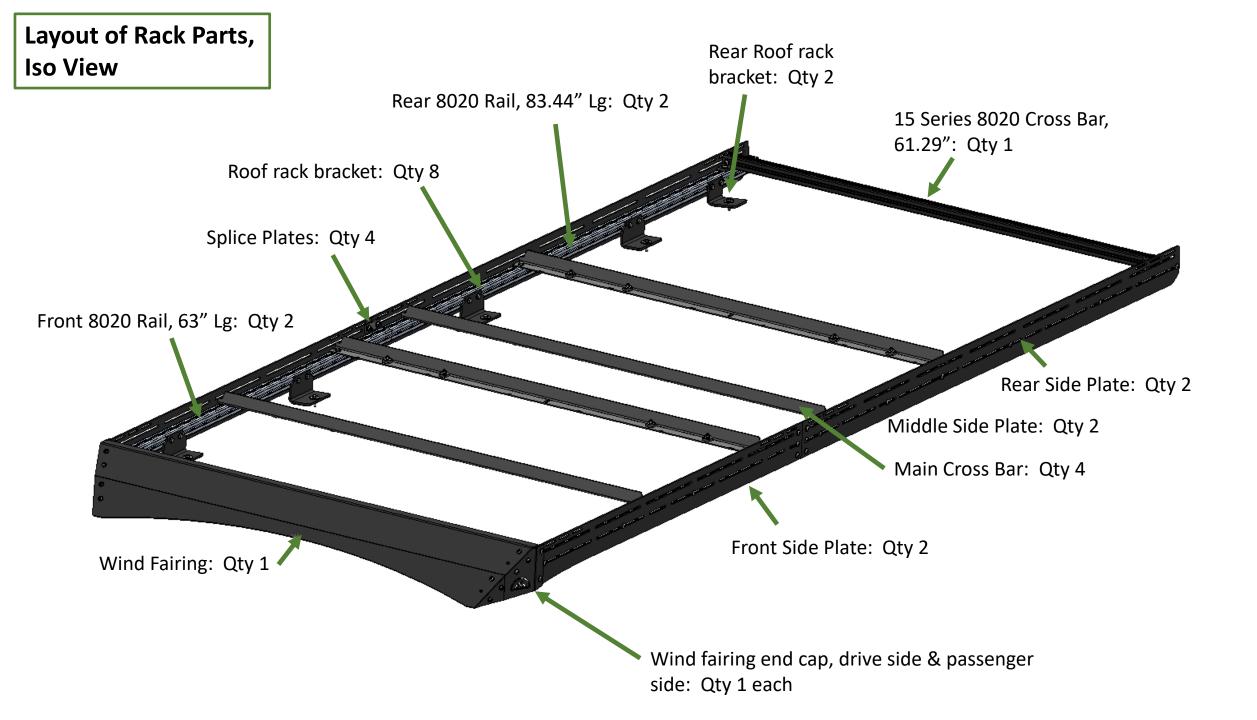
• Apply a dab of anti-seize to the side of each bolt that will be paired with a nylock nut. Nylock nuts have a small plastic insert to make them vibration resistant.



Loctite 242



Loctite C5-A Anti-Seize

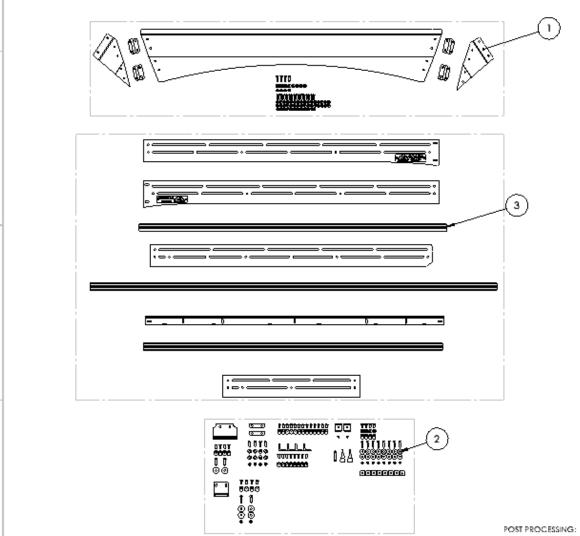


### Main Rack Parts

### This rack kit is typically shipped in 3 separate boxes

| ITEM<br>NO. | Manufacturer      | PART NUMBER          | DESCRIP                       | TION          | MATERIAL | QTY. |
|-------------|-------------------|----------------------|-------------------------------|---------------|----------|------|
| 1           | Unaka Gear<br>Co. | 1003-MA52-00 WFB REV | 1 TRANSIT HSLD HIG<br>FAIRING |               | ASSEMBLY | 1    |
| 2           | Unaka Gear<br>Co. | 1003-MK57-00-HWB REV | 1 TRANSIT 148 EXT. HSLD       | HARDWARE BOX  | ASSEMBLY | 1    |
| 3           | Unaka Gear<br>Co. | 1003-MK57-00 MRB REV | 1 TRANSIT 148 EXT. HSLD       | MAIN RACK BOX | ASSEMBLY | 1    |

|      | REVISIONS |   |            |          |  |  |  |  |
|------|-----------|---|------------|----------|--|--|--|--|
| ZONE | REV.      | DESCRIPTION   | DATE       | APPROVED |  |  |  |  |
|      | 0         | SUMPED REVISION FOR REV CONTROL   | 4/28/2023  | OBL      |  |  |  |  |
|      | 1         | ADDED FEATURES TO SIDE PLATES, MOVED LOGOS TO<br>SIDE PLATES, CHANGED REAR PLATE FROM SINGLE<br>LONG PLATE TO SHORTER SPLICE PLATE, UPDATED<br>HARDWARE KITTING | 10/30/2023 | GBL      |  |  |  |  |



#### SHIPPING NOTES:

FINISH:

1. COMPLETE RACK KIT IS SHIPPED IN 3 SEPERATE BOXES. BOX 1 CONTAINS THE WIND FAIRING & RESPECTIVE HARDWARE, BOX 2 CONTAINS THE BRACKETS / HARDWARE, AND BOX 3 CONTAINS THE SIDE PLATES AND EXTRUSION. KITTING / PACKAGING NOTES:

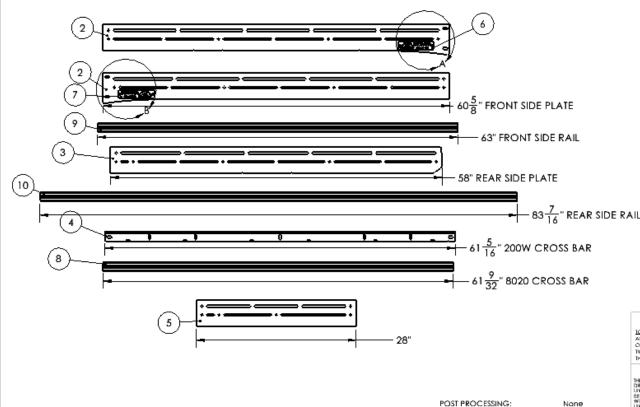
- 1. SEE BILL OF MATERIAL FOR TOTAL KITTING QUANTITIES AS IMAGES OF EVERY INDIVIDUAL ITEM MAY NOT BE SHOWN
- 2. IMAGES ARE SHOWN FOR PART IDENTIFICATION AND DO NOT REFLECT FULL QUANTIFIES OF EACH PARTS, SEE SUB ASSEMBLY DRAWINGS AND BOMS FOR EXACT QUANTITIES

|   | UNLESS OTHERWISE SPECIFIED<br>DIMENSIONS ARE IN INCHES  | DO NOT SEALE DRAWING |      |      | TITLE:                  |                 |              |
|---|---|----------------------|------|------|-------------------------|-----------------|--------------|
|   | TOURANCES<br>ANDUAR 30 5"   |                      | NAME | DATE | Ford Tr                 | ansit Roof      | Rack -       |
|   | ONE PLACE DECIMAL: \$0.1<br>TWO PLACE DECIMAL: \$0.01   | DRAWN                |      |      | HSLD -                  | 148EXT Hig      | ah Roof      |
|   | THREE PLACE DEC MAL: 10 DDS   | CHECKED              |      |      |                         |                 |              |
| ASSEMBLY                                    | PROFETANY AND CONTINUES<br>THE INCOMPTON CONTAINED NT-45<br>DRAWING IS THE SOLID FEDFILIED<br>UNATA DIRAC CO. ANT<br>REFEODUCION IN PART OF AS A WHOLE<br>WITHOUT ON WATEN DRIVESTON OF |                      |      | ٨    | SIZE DWG. N<br>B 1003-N | o.<br>AK57-00 R | EV 1 1       |
| None UNALA STAR CO. ISSIRCTLY<br>PRO-INTID. |   |                      | R CC |      | SCALE: NTS              |                 | SHEET 1 OF 1 |

### Main Rack Box

### Contains extrusion, side plates, and cross bars: Box Size: 8" x 8" x 91" Long

| ITEM NO. | Manufacturer   | PART NUMBER         | DESCRIPTION  | MATERIAL   | QTY. |
|----------|----------------|---------------------|--|------------|------|
| 1        | ANY            | 97525A505           | RIVET, BLIND, 3/16" DIA, FOR MATL<br>0.251"-0.375", 18-8 SS                | NA         | 4    |
| 2        | Unaka Gear Co. | 1003-MB50-01 REV 1  | FORD HSLD FRONT SIDE PLATE   | 5052-H32   | 2    |
| 3        | Unaka Gear Co. | 1003-MB50-02 REV 1  | FORD HSLD REAR SIDE PLATE  | 5052-H32   | 2    |
| 4        | Unaka Gear Co. | 1003-MB53-01 REV 0  | FORD HSLD STD CROSS BAR  | 5052-H32   | 4    |
| 5        | Unaka Gear Co. | 1003-MB57-03 REV 0  | FORD HSLD 148 EXT SIDE MIDDLE<br>SIDE PLATE                                | 5052-H32   | 1    |
| 6        | Unaka Gear Co. | 1006-MB50-04 REV 0  | UNAKA HSLD LOGO PLATE  | AISI 304   | 1    |
| 7        | Unaka Gear Co. | 1006-MB50-05 REV 0  | UNAKA HSLD LOGO PLATE<br>PASSENGER SIDE                                    | AISI 304   | 1    |
| 8        | Unaka Gear Co. | 1515-UL-BLACK-61.29 | 8020 Style Extrusion, 15 Series, Ultra<br>Lite, Grooved, Black, 61.29" LG. | 6061 Alloy | 1    |
| 9        | Unaka Gear Co. | 1515-UL-BLACK-63    | 8020 Style Extrusion, 15 Series, Ultra<br>Lite, Grooved, Black, 63" LG.    | 6061 Alloy | 2    |
| 10       | Unaka Gear Co. | 1515-UL-BLACK-83.44 | 8020 Style Extrusion, 15 Series, Ultra<br>Lite, Grooved, Black, 83.44" LG. | 6061 Alloy | 2    |
|          |                |                     |  |            |      |



FINISH:

None

|      | REVISIONS             |  |           |          |  |  |  |  |  |  |
|------|-----------------------|--|-----------|----------|--|--|--|--|--|--|
| ZONE | ZONE REV. DESCRIPTION |  | DATE      | APPROVED |  |  |  |  |  |  |
|      | ٥                     | SET REVISION TO 0 FOR NEW DRAWING REFERENCE    | 4/27/2023 | JEO      |  |  |  |  |  |  |
|      | 1                     | ADDED LOGO PLATES, UPDATED SIDE PLATE FEATURES | 9/17/2023 | OBL      |  |  |  |  |  |  |

#### DRIVER SIDE PASSENGER SIDE PASSENGER SIDE DETAIL B SCALE 1 : 5 1 7 6

#### PRE-KITTING NOTES:

- . LOGO PLATES 7 IS FOR DRIVE SIDE 6 IS FOR PASSENGER SIDE
- 2. LOGO PLATES 7 AND 6 SHOULD BE RIVETED TO SIDE PLATE

(2) BEFORE KITTING USING SS RIVETS . NOTE ORIENTATION OF LOGO PLATES WITH RESPECT TO PLATES.

#### NOTES:

- SEE BILL OF MATERIAL FOR TOTAL KITTING QUANTITIES AS IMAGES OF EVERY INDIVIDUAL ITEM MAY NOT BE SHOWN
- IMAGES ARE SHOWN FOR PART IDENTIFICATION AND DO NOT REFLECT FULL QUANTITIES OF EACH PARTS, SEE SUB ASSEMBLY DRAWINGS AND BOMS FOR EXACT QUANTITIES

#### PACKAGING NOTES

- 1. ALL PARTS SHOULD BE WRAPPED CAREFULLY AND SKU LABEL APPLIED TO WRAPPING BEFORE BOXING
- 2. ALL ITEMS SHOULD BE PACKAGED CAREFULLY IN A SINGLE BOX.
- ALL ITEMS SHOULD BE PACKAGED IN A WAY THAT WILL PREVENT DAMAGE OR MOVEMENT DURING SHIPPING
- 4. BOX SHOULD BE LABELED WITH SKU AND DESCRIPTION

| UNLESS OTHERWISE SPECIFIED<br>D MENSIONS ARE IN INCHES   | DO NOTSCALE DRAWING |     |      | TITLE:  |                   |
|--|---------------------|-----|------|---|-------------------|
| TOLERANCES:<br>ANGULAR: 20.5°  | NAME DATE           |     | DAIE | TRANSIT 148 EXT. HSLD                         |                   |
| ONE PLACE DEC MAL: ±0.1<br>TWO PLACE DEC MAL: ±0.0   | DRAWN BY            | JEO |      | MAIN RACK BOX                                 |                   |
| THREE PLACE DECIMAL: ±0.005  | CHECKED             |     |      |   |                   |
| PEOPHERATY AND CONTREMAN<br>THE INFORMATION CONTAINED IN THIS<br>DRAWING STIESCHE PROPERTY OF<br>UNATA CERR CO. ANY<br>REPEODUCIES IN TART OR AS A WHOLE<br>WITHOUT THE WHITTEN REMASSION OF<br>UNATA CERR CO. SUFFICI / |                     |     | A    | size dwg. no.<br><b>B</b> 003-MK57-00 MRB REV | rev<br>1 <b>1</b> |
| PROHINTED.   |                     |     |      | SCALE: NTS SHEET                              | 1 OF 1            |

### HSLD 148 EXT Hardware Kits

- 1. This rack kit comes with all the required hardware to complete the assembly and installation
- 2. Five separate types of hardware kits are provided which are highlighted below, and detailed on the next several pages
- 3. Do not mix hardware, once bags are opened take care not to mix hardware from one kit with another as some bolt sizes are very similar and may be hard to distinguish from others

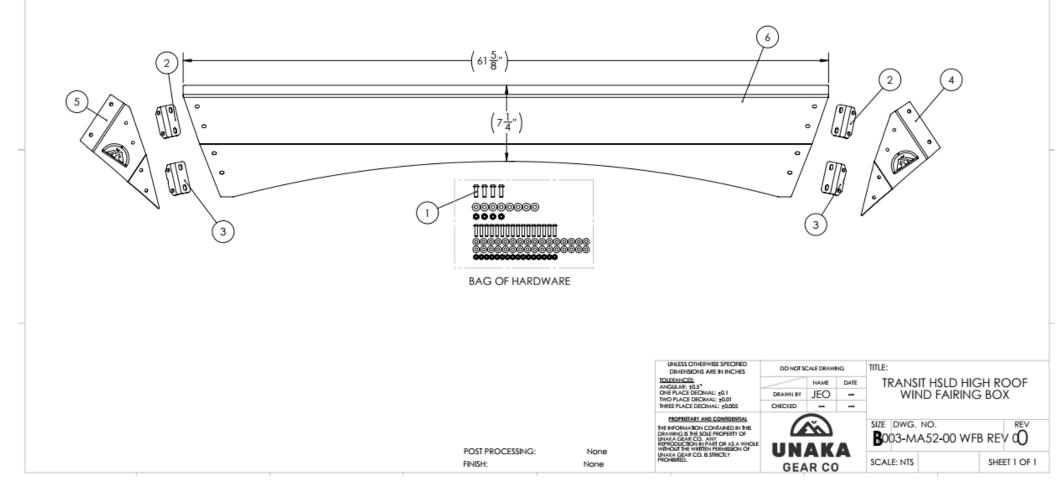
| Hardware Kit   | Quantity |
|--|----------|
| HSLD 148 EXT. RACK BRACKET HARDWARE (for 5 Brackets) | 2        |
| HSLD 148 EXT. SIDE RAIL HARDWARE KIT                 | 2        |
| HSLD TRANSIT WIND FAIRING HARDWARE KIT               | 1        |
| HSLD TRANSIT CROSS BAR HARDWARE KIT, 200W SOLAR      | 2        |
| HSLD TRANSIT 8020 CROSS BAR HARDWARE KIT             | 1        |

## HSLD Wind Fairing Box

### Contains wind fairing pieces, hardware bag, and bulb seal: Box Size: $65 \times 13 \times 3$ in

| ITEM<br>NO. | Manufacturer      | PART NUMBER              | DESCRIPTION                                | MATERIAL | QTY. |
|-------------|-------------------|--------------------------|--|----------|------|
| 1           | Unaka Gear<br>Co. | 1003-MA52-00-HW<br>REV 0 | TRANSIT HSLD WIND FAIRING<br>HARDWARE KIT  | ASSEMBLY | 1    |
| 2           | UNAKA             | 1003-MB52-01             | FT EL WIND FAIRING TO RAIL<br>BRACKET      | 5052-H32 | 2    |
| 3           | UNAKA             | 1003-MB52-02             | FT EL WIND FAIRING TO RAIL<br>BRACKET 2    | 5052-H32 | 2    |
| 4           | UNAKA             | 1003-MB52-03             | FT EL SIDE PLATE END CAP                   | 5052-H32 | 1    |
| 5           | UNAKA             | 1003-MB52-04             | FT EL SIDE PLATE END CAP<br>PASSENGER SIDE | 5052-H32 | 1    |
| 6           | UNAKA             | 1003-MB52-05             | FT EL WIND FAIRING 2 BENDS                 | 5052-H32 | 1    |

| REVISIONS |                       |                                       |           |          |  |  |  |
|-----------|-----------------------|---------------------------------------|-----------|----------|--|--|--|
| ZONE      | ZONE REV. DESCRIPTION |                                       | DATE      | APPROVED |  |  |  |
|           | 0                     | CREATED REVISION TO START REV CONTROL | 4/28/2023 | JEO      |  |  |  |

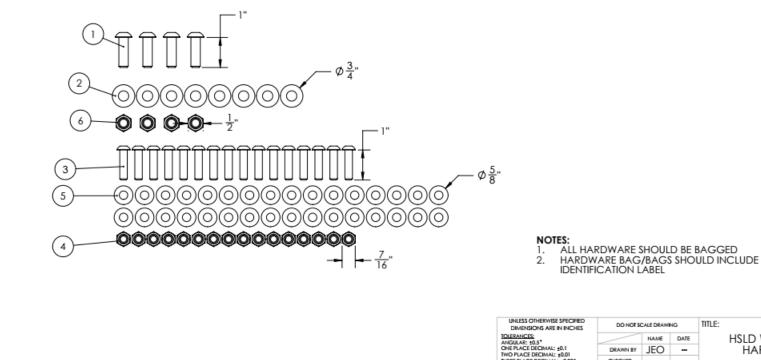


### HSLD Wind Fairing Hardware

### Hardware required for wind fairing assembly, typically shipped in wind fairing box

| ITEM NO. Manufacturer |     | PART NUMBER | DESCRIPTION  | MATERIAL | QTY. |
|-----------------------|-----|-------------|--|----------|------|
| 1 ANY 92949A582       |     |             | BHCS, 5/16-18 X 1" LG, FULLY THREADED,<br>18-8 S.S.            | NA       | 4    |
| 2 ANY 92141A030       |     | 92141A030   | FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID,<br>0.75" OD, 18-8 SS | NA       | 8    |
| 3                     | ANY | 92949A542   | BHCS, 1/4-20 X 1" LG, SS                                       | NA       | 16   |
| 4                     | ANY | 91831A029   | LOCKNUT, 1/4-20, 18-8 S.S.                                     | NA       | 16   |
| 5                     | ANY | 92141A029   | WASHER, 1/4", 0.625" OD, 18-8 SS                               | NA       | 32   |
| 6                     | ANY | 91831A030   | LOCKNUT, 5/16-18, 18-8 S.S.                                    | NA       | 4    |

|      | REVISIONS |                                |           |          |  |  |  |  |
|------|-----------|--------------------------------|-----------|----------|--|--|--|--|
| ZONE | REV.      | DESCRIPTION                    | DATE      | APPROVED |  |  |  |  |
|      | o         | ADDED REVISION FOR REV CONTROL | 5/18/2023 | JEO      |  |  |  |  |



POST PROCESSING:

FINISH:

None

None



SHEET 1 OF 1

SCALE: NTS

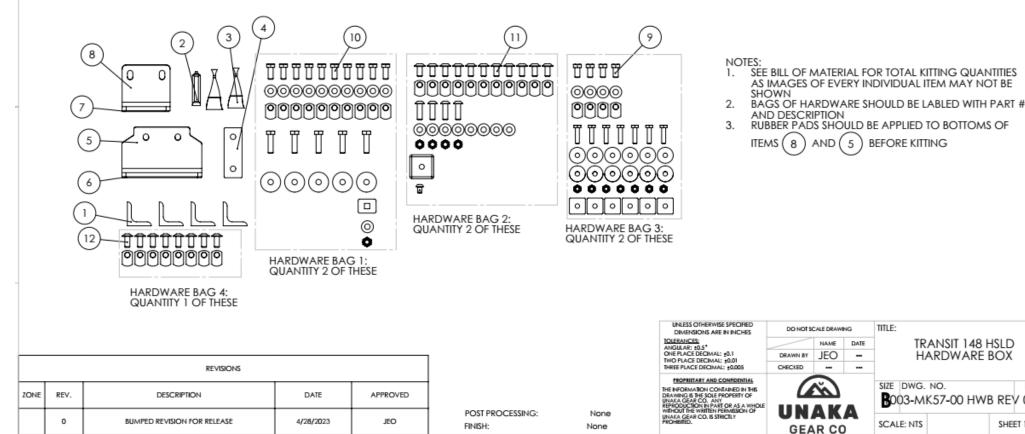
GEAR CO

THREE PLACE DECIMAL: ±0.005

TROPHETARY AND CONTRIBUTIAL THE INFORMATION CONTRIBUTION THIS DRAWING IS THE SOLE PROPERTY OF UNARA GEAR CO. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN FEMALISMON OF UNARA GEAR CO. IS STRICTLY PROHIBITE. **HSLD** Hardware Box

### All remaining pieces required to assemble and install your roof rack (Typical Box: $10 \times 6 \times 4$ in)

| ITEM NO. | Manufacturer   | PART NUMBER            | DESCRIPTION   | MATERIAL                                   | QTY. |
|----------|----------------|------------------------|---|--|------|
| 1        | FRAMEWORLD     | BLB-1                  | CORNER BRACKET, 2 HOLE, BLACK                               | NA   | 4    |
| 2        | Loctite        | 1821A11                | Antiseize, Ib8008, Electrically Conductive, 0.2 oz.<br>Pack | NA   | 1    |
| 3        | Loctite        | 91458A111              | Threadlocker, Loctite® 242, 0.02 FL. oz Capsule             | NA   | 2    |
| 4        | UNAKA          | 1003-MB50-03           | FT EXL SIDE RAIL SPLICE PLATE                               | 5052-H32                                   | 4    |
| 5        | UNAKA          | 1003-MB51-01           | FT EXLIFE RACK BRACKET                                      | 5052-H32                                   | 8    |
| 6        | UNAKA          | 1003-MP51-02           | FT EXLIFE RACK BRACKET RUBBER PAD                           | EPDM 60 Durometer                          | 8    |
| 7        | UNAKA          | 1003-MP58-02           | FT HSLD REAR RACK BRACKET RUBBER PAD                        | EPDM RUBBER WITH PSA<br>GASKET ON THE BACK | 2    |
| 8        | Unaka Gear Co. | 1003-MB58-01 REV A     | FT HSLD REAR BRACKET  | 5052-H32                                   | 2    |
| 9        | Unaka Gear Co. | 1003-MK53-00-HW        | HSLD CROSS BAR HARDWARE KIT, 200W SOLAR                     | ASSEMBLY                                   | 2    |
| 10       | Unaka Gear Co. | 1003-MK57-00-HW1 REV 0 | TRANSIT HSLD 148 EXT. RACK BRACKET<br>HARDWARE              | ASSEMBLY                                   | 2    |
| 11       | Unaka Gear Co. | 1003-MK57-00-HW2 REV 0 | TRANSIT HSLD 148 EXT. SIDE RAIL HARDWARE KIT                | ASSEMBLY                                   | 2    |
| 12       | Unaka Gear Co. | 1003-MK60-00-HW        | TRANSIT HSLD 8020 CROSS BAR HARDWARE KIT                    | ASSEMBLY                                   | 1    |



TRANSIT 148 HSLD

HARDWARE BOX

B003-MK57-00 HWB REV 0

REV

SHEET 1 OF 1

SIZE DWG. NO.

SCALE: NTS

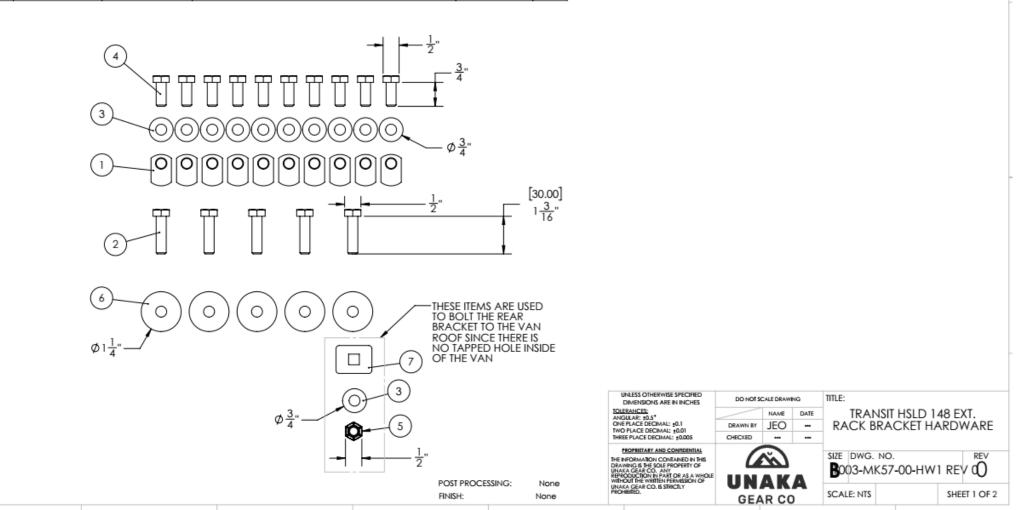
## Rack Bracket Hardware Bags

2 Total: 1 is used for drive side, and 1 is used for passenger side

### Hardware required for bolt brackets to van roof, and brackets to 8020 side rails

| ITEM<br>NO. | Manufacturer     | PART NUMBER        | DESCRIPTION  | MATERIAL | QTY. |
|-------------|------------------|--------------------|--|----------|------|
| 1           | 8020             | 3678               | T-NUT, ECONOMY, 5/16 THREAD, SS                                | NA       | 10   |
| 2           | ANY              | 91287A154          | HEX BOLT, M8 X 30MM, 18-8 SS                                   | NA       | 5    |
| 3           | ANY              | 92141A030          | FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75"<br>OD, 18-8 SS | NA       | 11   |
| 4           | ANY              | 92240A581          | HEX BOLT, 5/16"-18 X 0.75" LG, 18-8 SS                         | NA       | 10   |
| 5           | ANY              | 93625A300          | NYLOC NUT, M8x1.25 THREAD, 18-8 SS                             | NA       | 1    |
| 6           | Unaka Gear Co.   | 1003-MA10-00<br>HW | BONDED WASHER, 1.25 OD, 0.34 ID, EPDM RUBBER<br>1 SIDE         | ASSEMBLY | 5    |
| 7           | UNAKA GEAR<br>CO | 1006-MB10-03       | SPRINTER RACK RAIL, SINGLE WASHER                              | AISI 304 | 1    |
|             |                  |                    |  |          |      |

|    | REVISIONS |      |                                 |          |     |  |  |  |
|----|-----------|------|---------------------------------|----------|-----|--|--|--|
| zc | DNE       | DATE | APPROVED                        |          |     |  |  |  |
|    |           | 0    | BUMPED REVISION FOR REV CONTROL | 5/1/2023 | JEO |  |  |  |



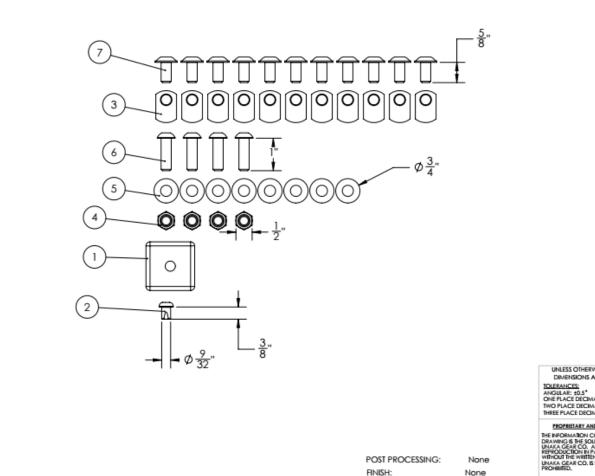
## Side Rail Hardware Bags

2 Total: 1 is used for drive side, and 1 is used for passenger side

### Hardware required for assemble side rails

| ITEM<br>NO. | Manufacturer | PART NUMBER  | DESCRIPTION  | MATERIAL | QTY. |
|-------------|--------------|--------------|--|----------|------|
| 1           | 8020         | 203001-PLAIN | END CAP, 15 SERIES, PLAIN, BLACK                               | NA       | 1    |
| 2           | 8020         | 3267         | SELF TAPPING END CAP SCREW, M7 X<br>0.36"                      | NA       | 1    |
| 3           | 8020         | 3678         | T-NUT, ECONOMY, 5/16 THREAD, SS                                | NA       | 11   |
| 4           | ANY          | 91831A030    | LOCKNUT, 5/16-18, 18-8 S.S.                                    | NA       | 4    |
| 5           | ANY          | 92141A030    | FLAT WASHER, 5/16" SCREW SIZE, 0.344"<br>ID, 0.75" OD, 18-8 SS | NA       | 8    |
| 6           | ANY          | 92949A582    | BHCS, 5/16-18 X 1" LG, FULLY THREADED,<br>18-8 S.S.            | NA       | 4    |
| 7           | ANY          | 97654A304    | BHCS, FLANGED, 5/16 X 0.625" LG., S.S.                         | NA       | 11   |
|             |              |              |  |          |      |

|                                    | REVISIONS |                             |          |     |  |  |  |  |
|------------------------------------|-----------|-----------------------------|----------|-----|--|--|--|--|
| ZONE REV. DESCRIPTION DATE APPROVE |           |                             |          |     |  |  |  |  |
|                                    | 0         | BUMPED REVISION FOR RELEASE | 5/1/2023 | JEO |  |  |  |  |



None

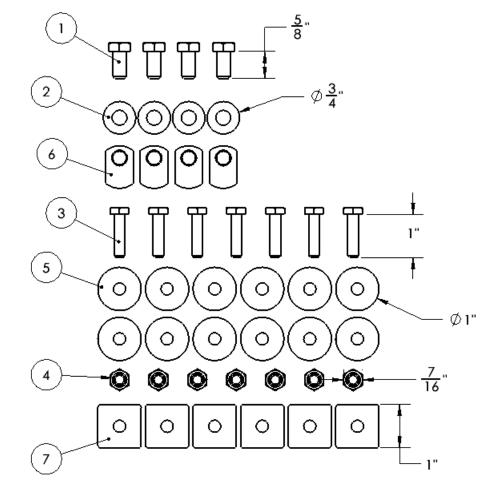
| WISE SPECIFIED<br>ARE IN INCHES | DO NOT SC | CALE DRAW                       | NG         | TRANSIT HSLD 148 EXT. SIDE |  |  |  |
|---------------------------------|-----------|---------------------------------|------------|----------------------------|--|--|--|
|                                 |           | NAME                            | DATE       |                            |  |  |  |
| AL: :0.1                        | DRAWN BY  | JEO                             |            | RAIL HARDWARE KIT          |  |  |  |
| MAL: ±0.005                     | CHECKED   |                                 |            |                            |  |  |  |
|                                 |           | SIZE DWG. NO.<br>B003-MK57-00-H | HW2 REV 0  |                            |  |  |  |
|                                 |           |                                 | SCALE: NTS | SHEET 1 OF 1               |  |  |  |

### 200W HSLD Cross Bar Hardware

Quantity 2 Total

# HSLD CROSS BAR HARDWARE KIT, 200W SOLAR

| ITEM NO. | Manufacturer | PART NUMBER  | DESCRIPTION  | MATERIAL | LENGTH | QTY. |
|----------|--------------|--------------|--|----------|--------|------|
| 1        | ANY          | 92240A580    | HEX HEAD BOLT, 5/16"-18 X 0.625" LG, 18-8 SS                   | NA       |        | 4    |
| 2        | ANY          | 92141A030    | FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75"<br>OD, 18-8 SS | NA       |        | 4    |
| 3        | ANY          | 92240A542    | HEX BOLT, 1/4-20 X 1" FULLY THREADED, 18-8 S.S.                | NA       |        | 7    |
| 4        | ANY          | 91831A029    | LOCKNUT, 1/4-20, 18-8 S.S.                                     | NA       |        | 7    |
| 5        | ANY          | 90313A107    | WASHER, 1/4" X 1" OD, 18-8 SS                                  | NA       |        | 12   |
| 6        | 8020         | 8020-3678    | T-NUT, ECONOMY, 5/16 THREAD, SS                                | NA       |        | 4    |
| 7        | UNAKA        | 1003-MB53-02 | FT EL 0.25" SOLAR PANEL SPACER                                 | 5052-H32 |        | 6    |



# FORD HSLD 8020 CROSS BAR HARDWARE KIT

| ITEM NO. | Manufacturer   | PART NUMBER   | DESCRIPT                                    | ION   | MATERIAL  | LENGTH  | QTY.   |
|----------|--|---------------|---|---|---|---|--|
| 1        | 8020   | 3678          | T-NUT, ECONOMY, 5                           |   | NA  |   | 8  |
| 2        | ANY  | 92141A030     | FLAT WASHER, 5/16" SCR<br>0.75" OD, 1       | REW SIZE, 0.344" ID,  | NA  |   | 8  |
| 3        | ANY  | 92949A581     | BHCS, 5/16-18 X 0.75" LG,<br>8 S.S.         | FULLY THREADED, 18-   | NA  |   | 8  |
| 4        | ANY  | BLB-1         | CORNER BRACKET, 2 HOL                       |   | NA  |   | 4  |
| 5        | Unaka Gear Co.                                       | 1515-UL-BLACK | 1515-UL-BLAC                                | CK-61.29  |   |   | 1  |
|          |  | 61.29         |   | 2. BEFC<br>NUTS<br>BE D<br>3. BOLT<br>4. BOLT   | SE BLUE LOCTITE 242<br>DRE STARTING ASSEM<br>S INTO ANY 8020 SLO<br>IFFICULT OR REQUIR<br>T CORNER BRACKET<br>T 8020 CROSS BAR T<br>TS<br>QUE TO 180 IN-LBS ( | MBLY, INSERT ANY A<br>DTS AS INSTALLING<br>E DISASSEMBLY<br>S TO 8020 CROSS B<br>O MATING 8020 US | DDITIONAL T-<br>THEM LATER MA<br>AR AS SHOWN |
|          | 2 4 5<br>3<br>3<br>2<br>DETAIL A<br>SCALE 1 : 2<br>1 | TOW.          | ON T-NUT GOES<br>ARDS THE CENTER<br>HE 8020 | UNLESS OTHERWISE SPECIFED<br>DIMENSIONS ARE N INCHES<br>TOLERANCES<br>ANGULAR: 9.5<br>ONE RACE DEC MAL: 901<br>ONE RACE DEC MAL: 901  | DD HOT SCALE DRAWING<br>NAME DATE<br>DRAWN DATE   | TITLE:<br>FORD HSLD &<br>BA   |  |
|          |  |               | -   | THREE PLACE DEC MAIL 20005<br>PLOFRETARY AND CONTAINED<br>THE INFORMATION CONTAINED IN THIS<br>DEAWING ST-LESCIE FROPERTY OF<br>UNASA GEAR TO A INFORMATION AND AND<br>REPRODUCTION IN DARK OF AS A WHOLE | C-HECKED  | size dwg. no.<br><b>В</b> 1003-МК   | 60-00  |
|          |  |               | POST PROCESSING: ASSEMBLY<br>FINISH: None   | WITHOUT 1-E W WITH PERMIS ON OF<br>UNAKA GEAR CO. IS STRICTLY<br>PPOHISTED.   | UNAKA<br>GEAR CO  | SCALE: NTS  | SHEET 1 OF                                   |

Step 1: Layout all parts on the floor of your workspace

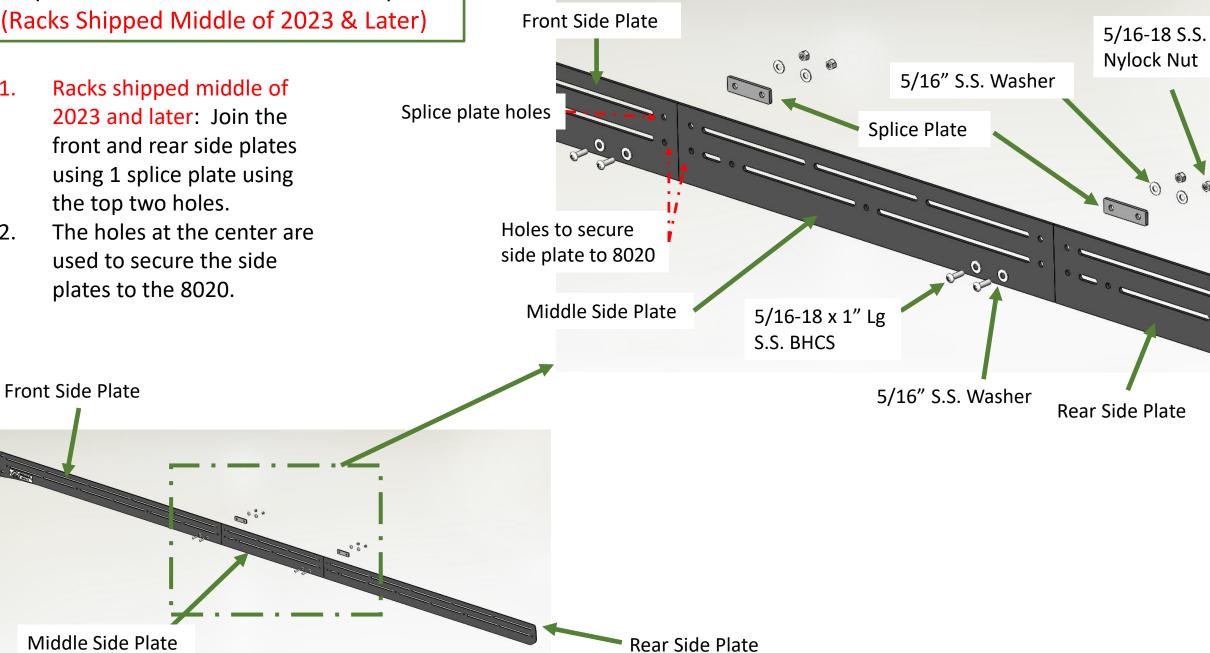
- 1. Clear your work area, and layout all parts
- 2. Make notes of hardware types, locations, and quantities as needed



Note: This image is of the Explorsit Life Kit, the Ford Transit HSLD kit does not include the AC or Fan Cross Bars but instead the rear 8020 cross bar

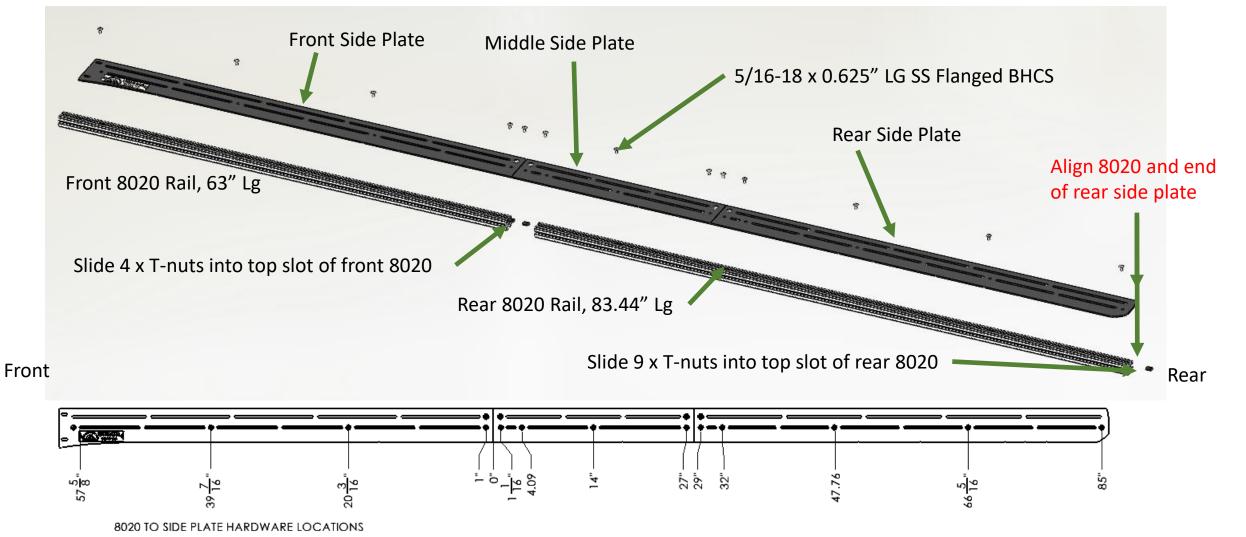
## Step 2: Join the front and rear side plates (Racks Shipped Middle of 2023 & Later)

- Racks shipped middle of 1. 2023 and later: Join the front and rear side plates using 1 splice plate using the top two holes.
- 2. The holes at the center are used to secure the side plates to the 8020.



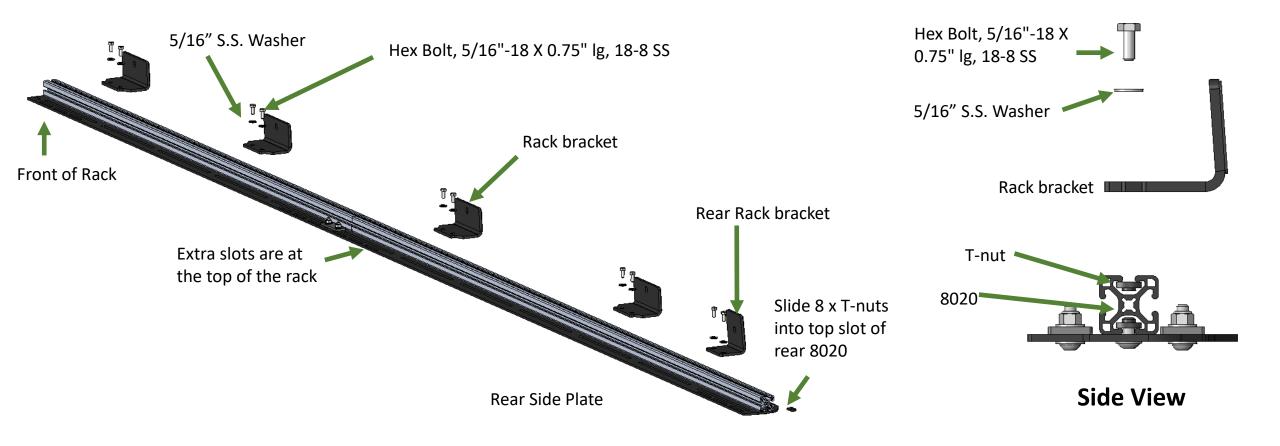
### Step 2: Bolt 8020 rails to side plates

- 1. Place the front and rear 8020 pieces on the ground
- 2. Slide 9 x SS T-nuts into the top slot of the rear 8020, and slide Qty 4 x SS T-nuts into the front piece of 8020
- 3. Slide the T-nuts to the dimensions provided below which should line up in holes in the side plates
- 4. Carefully place the side rail assembly on top of the 8020, align the back of the rear side plate with the end of the rear 8020
- 5. Insert the bolts into the t-nuts, and tighten



### Step 3: Bolt rack brackets to 8020 rails

- 1. Place the side rail assembly on its back
- 2. Slide 10 x SS T-nuts into the upward facing slot and slide down to their approximate bracket locations (see next page)
- 3. Loosely bolt rack brackets to the 8020 rail
- 4. Slide the rack brackets down to the dimensions on the next page
  - a) These dimensions should be close, but brackets may need to be loosened and adjusted during installation to the roof
- 5. Snug up the bolts securing the rack bracket to the 8020 rail
  - a) Bracket positions should be close, but brackets may need to be loosened and adjusted during installation to the roof

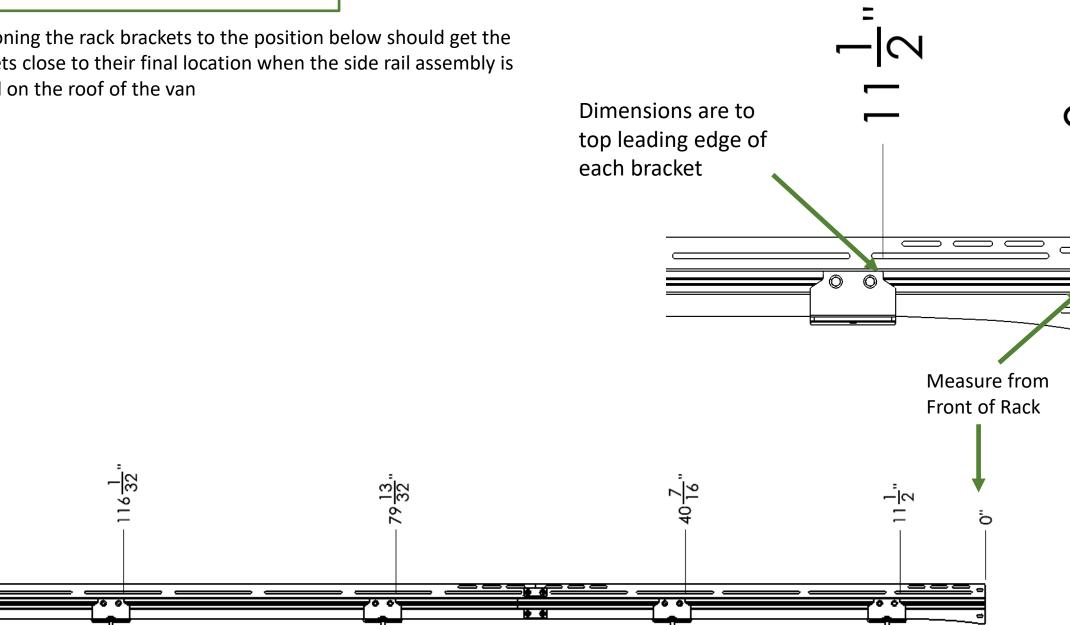


Step 3: Rack bracket locations

 $\left(146\frac{5}{8}"\right)$ 

134 <u>15</u>,

Positioning the rack brackets to the position below should get the 1. brackets close to their final location when the side rail assembly is placed on the roof of the van



\*\*Image above is shows the set up for racks shipped before 3<sup>rd</sup> quarter of 2023 that does not use the middle splice side plate

### Step 4: Assemble Passenger Side Rail

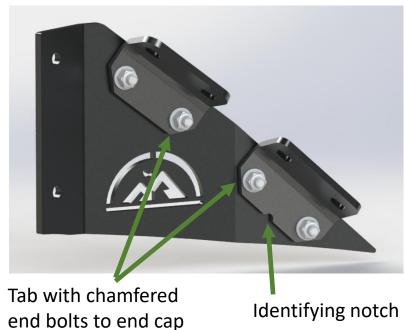
- 1. NOTE: The passenger side rail assembly is a mirror image of the driver side. Ensure you flip the orientation of the parts so that you do not make a 2<sup>nd</sup> driver side rail assembly
- 2. Repeat steps 2 and 3 to make the passenger side rail assembly



### Step 5: Assemble Wind Fairing End Caps

- Warning: Top and bottom end cap brackets look very similar. Bottom wind fairing end cap bracket has a round relief cut out on one side to help identify it
- 2. End cap brackets should be installed with the tab with the chamfered corners bolting to wind fairing end cap
- 3. Bolt top and bottom wind fairing brackets to driver side end cap. \*\*\*Leave the bolts just loose enough so the brackets can float around in their slots
- 4. Repeat process for passenger side end cap

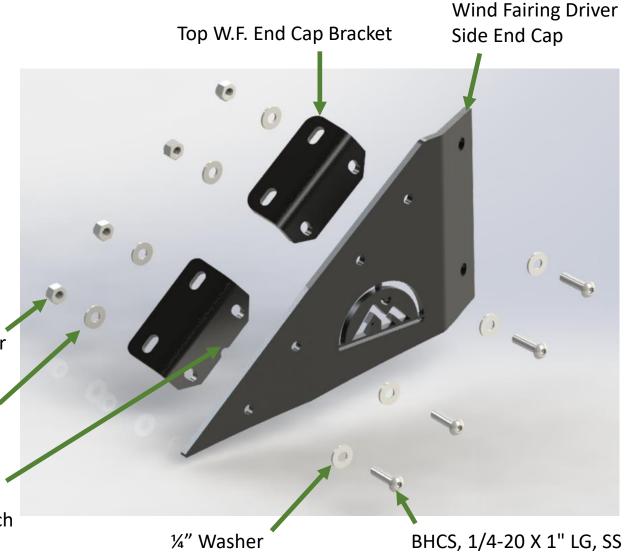
### Driver Side End Cap Assembled



1/4-20 Nylock Washer

¼" Washer

Bottom W.F. End Cap Bracket w/identifying notch



### Step 6: Bolt wind fairing to end caps

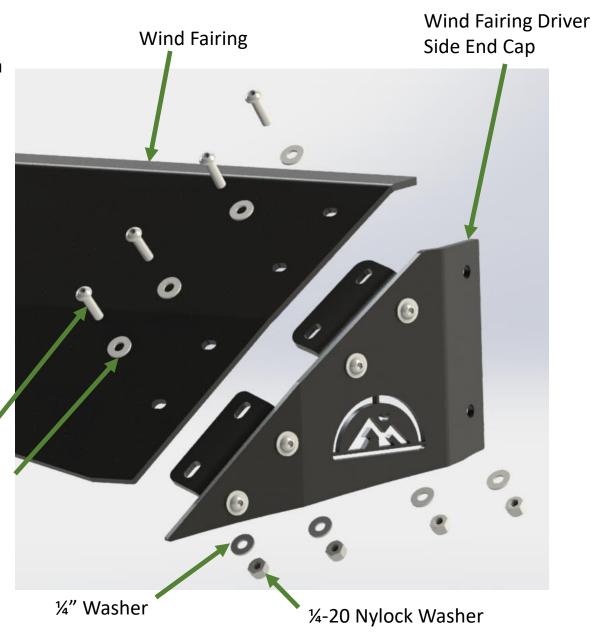
- 1. Hardware holding end cap brackets to the end cap still slightly loose
- 2. Loosely bolt the wind fairing to the wind fairing end cap assemblies
- 3. \*\*Tighten the hardware carefully. Do not tighten hardware one at a time. Holding / position the wind fairing to align the edges of the fairing with the end cap as best you can. All edges may not be perfectly aligned due to manufacturing tolerances. Move between the bolts tightening them each a bit slowly until everything is nice and tight. If you tighten one bracket to much, it may not allow the adjustment slots in the brackets to compensate for manufacturing and installation tolerances
- 4. Repeat for the passenger side end cap
- 5. Install the bulb seal on the front edge of the wind fairing

Completed passenger side end cap / wind fairing



BHCS, 1/4-20 X 1" LG, SS

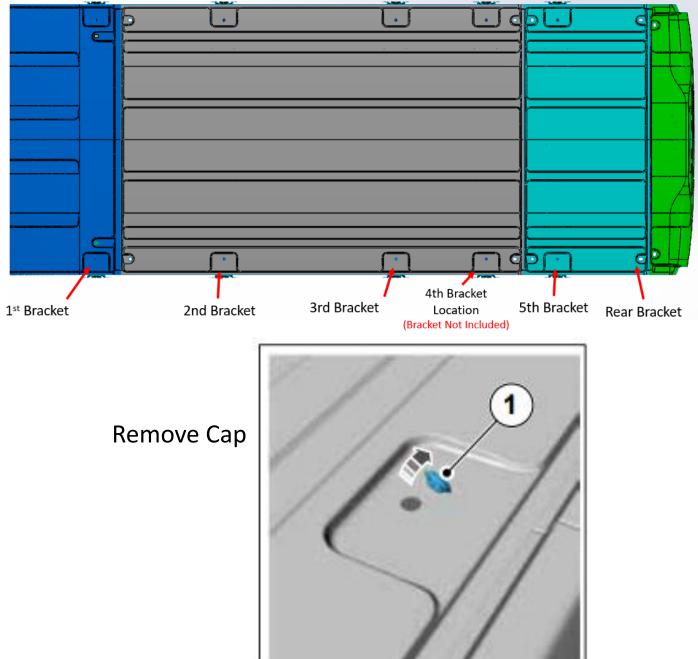
¼" Washer



### Step 7: Remove caps from van roof

Note: If the rack installation is being completed outside, before starting this step make sure you have plenty of time to get the rack installed, and to let the dicor set up before exposure to rain or water

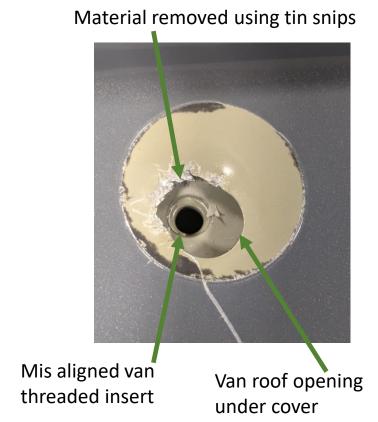
- 1. Identify the rack bracket mounting locations
  - Note this kit does not use the 4<sup>th</sup> bracket location on the van roof. DO NOT Remove this cap unless you are installing extra brackets there. If additional strength is required, this bracket can be purchased and installed separately.
- 2. Carefully remove the rack mounting hole covers at the 1<sup>st B</sup> rack bracket locations
  - a) Other holes may be present on the roof, only remove the hole covers at the rack mounting pad locations
  - b) Apply light heat to the hole cover using a heat gun. \*\*Caution as overheating the surrounding area could cause damage to the van.
  - c) Using a plastic scraper, break the outside edges around the cap
  - d) Use the plastic scraper to then remove the cover, applying more heat if necessary.
- 3. Remove any extra glue and clean with denatured alcohol



### Step 8: Check van threaded insert alignment

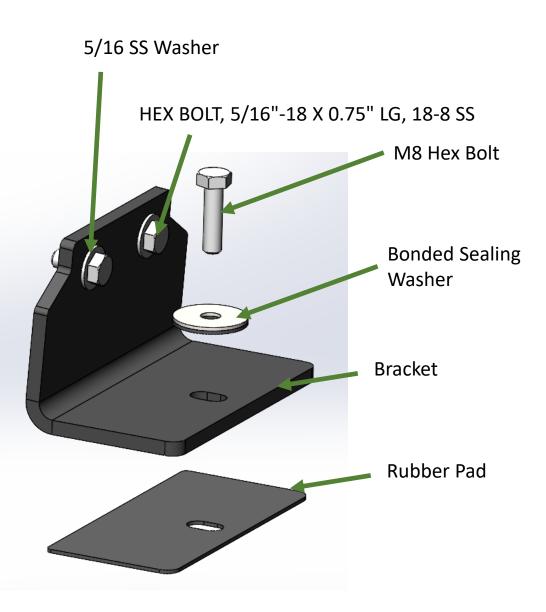
Ford does a lot right, but unless you are lucky, you will be evaluating Ford's manufacturing process during these next steps.

- 1. Using the M8 bolt provided, check the alignment of the van threaded insert by screwing it in by hand
  - a) \*\*\*Note all holes will be aligned so do not force it
  - b) The threaded insert is at a slight angle, so make sure when you are checking the alignment, the bolt is perpendicular to the threaded insert
  - In rare cases the van threaded insert may have to much paint in it and the bolt will not easily thread in. DO NOT force it, get a M8x1.25 hand tap, and run it through the threaded insert
- 2. Open up any mis aligned holes so the M8 bolt can be threaded in, we recommend tin snips which won't make the cleanest hole, but will not make a big mess or leave a lot of metal shavings to clean up
  - a) Using tin snips, cut away just enough material to expose the hole. This can be done by cutting small V notches
  - b) Clean the cut metal to remove bent or sharp edges as desired, this will be painted and covered up, so it doesn't have to be perfect
  - c) Use denatured alcohol to clean the hole cut edges, and use a small foam brush to prime and paint the exposed metal cut edges



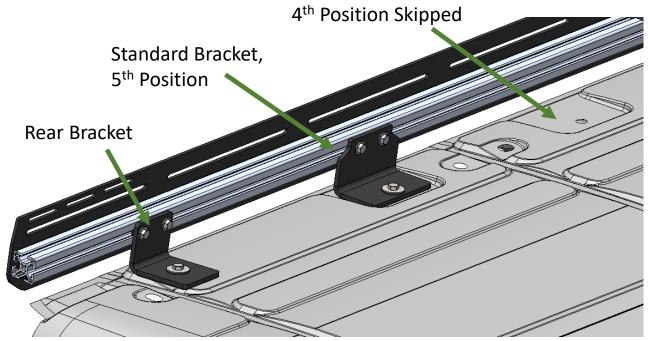
Step 8: Main Bracket Set Up

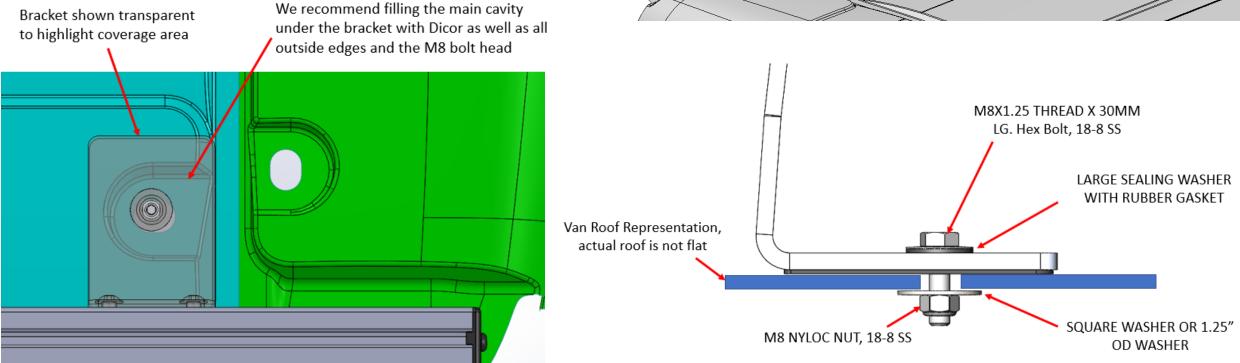
Standard bracket hardware layout



### Step 8: Rear Bracket Set Up

Ford does not include the same mounting pad over a cross bar with internal tapped hole at the back of the van. Instead, the rear bracket bolts through the roof of the van using an extra oversized washer and nut.





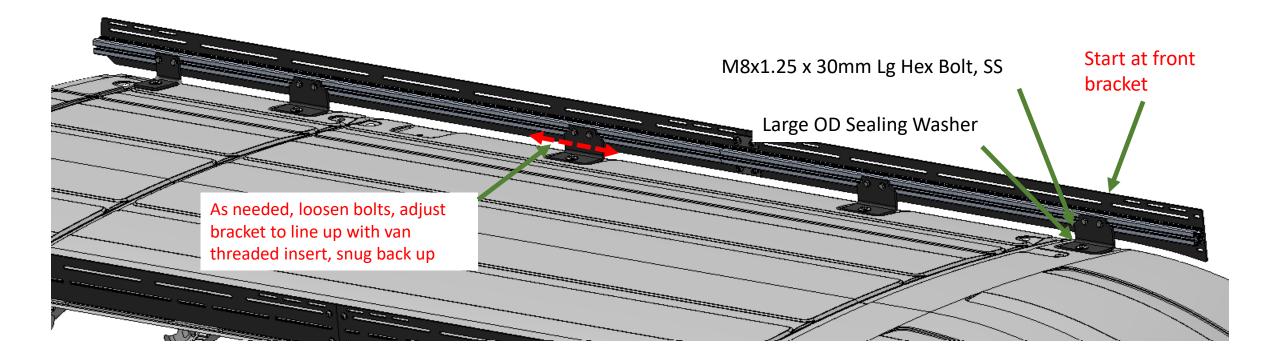
### Finally, Lets Get the Rack On Your Van!

Congrats! You made it and are now ready to install your roof rack onto your van! I hope that your van was perfect and that you didn't have to open up any holes, but for those of you that opened up a bunch of them congrats on getting it done!

### Step 9: Install the rack side rail assemblies

This step should be completed with 2 people using 2 ladders

- 1. Place one M8 bolt and large OD sealing washer at each rack bracket location
- 2. Life the driver side rail assembly up and onto the roof \*\*Use rags to protect the roof if you need to lay the rail assembly onto the van
- 3. Install the M8 bolt into the first roof rack bracket, leave just loose enough so the bracket can be wiggled forwards or backwards on its slot
- 4. Install the remainder of the M8 bolts, if a bracket does not line up with the threaded insert, loose the bolts and slide the bracket forward or backwards until the M8 bolt can be installed, then snug the bolts on the 8020 back up. Tighten the M8 bolt to the van threaded insert just loose enough so bracket can be adjusted if needed
- 5. Repeat these steps for the passenger side of the van



### Step 9: Side Rail Positions

This step should be completed with 2 people using 2 ladders

1. Confirm side rail front to back alignment

Confirm that driver side and passenger side rails are extending the same amount from the front of the rack bracket. This was set to 11.5" in a previous step. If for some reason it is decided that 11.5" is not the desired amount due to personal installation variations or needs, just make sure they are even

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### Step 10: Install rack wind fairing

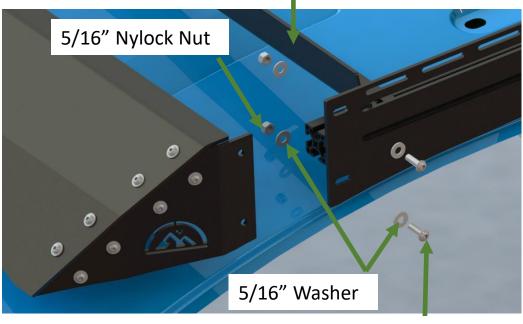
This step should be completed with 2 people using 2 ladders

Tip: Use rags as needed to protect the van if you need to sit the wind fairing on the van roof

Warning: Take extra precautions to not drop the wind fairing onto the wind shield, and down the front of the van

Note: The slots in the side plate allow for forward / backward adjustment of the wind fairing, as well as gives the ability to adjust the angle of the wind fairing

- 1. A cross bar should be installed towards the front of the rack to help maintain side rail spacing during this process
- 2. Lift the wind fairing up into place
- 3. Loosely bolt the wind fairing to the top and bottom slots on the side plates
- 4. Adjust the angle and position of the wind fairing so that the wind fairing bulb seal compresses onto the van roof
  - a) We generally position the wind fairing as far forward as possible
  - b) Snug up the wind fairing hardware
- 5. Entire rack can be slide forward or backwards if a better wind fairing fit is desired. This will require loosening the bolts that attach the 8020 rails to the rack brackets



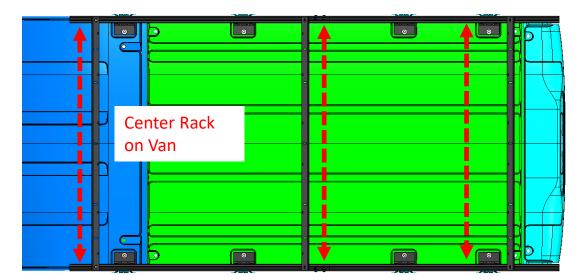
#### Cross bar in place to maintain rack width

BHCS, 5/16-18 X 1" LG, FULLY THREADED, 18-8 S.S.

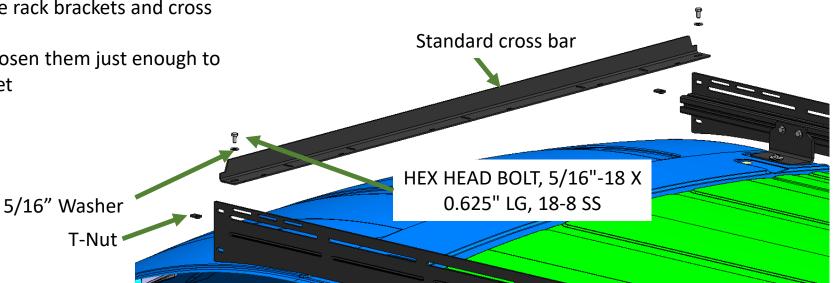
### Step 11: Set side rail to side rail spacing

This step should be completed with 2 people using 2 ladders

- 1. Install 3 to 4 of the standard cross bars along the length of the rack
  - a) Do not use the cross bars for around the fan or AC unit
  - b) At a minimum place one towards the front, one towards the middle, and one towards the back
  - c) Do not place cross bars directly over a rack bracket
- 2. Slide one T-nut in the top of both the driver side and passenger side 8020 rails per cross bar. These t-nuts can be slide in from the front or back of the rack
- 3. Loosely bolt the cross bars to the 8020 rails
- 4. Once the cross bars are in place, center the rack on the van and set the side rail to side rail spacing so that the cross bars are tight, but can still be removed, or adjusted forward or backwards. As you adjust, the rail to rail spacing, snug up the rack brackets and cross bar hardware
  - a) If the rack brackets are too tight, loosen them just enough to allow the rail to rail spacing to be set
- 5. Tighten rack brackets to van roof



Temporary cross bars near front, middle, and rear \*Image of Non Extended Transit\*



### Step 12: Dicor rack brackets sealing to roof

Each rack bracket already has a rubber gasket on the bottom, and the bolt secures the bracket to the van using a sealing washer which should keep most water out. That being said, we always Dicor the rack brackets to ensure no water can get into your van and we recommend that you do the same

Tip: For a clean Dicor installation, apply painters' tape on all 4 sides of the rack bracket

- 1. Per the manufacture's directions, apply Dicor to all 4 sides of the rack bracket and the hex bolt and sealing washer
- 2. When ready, remove the painters tape
- 3. Once Dicor is dry, remove the temporary cross bars

A piece of clear vinyl tubing and small hose clamp are used to Dicor the back of the bracket under the side rail assembly



Before Dicor



Which Dicor: We typically use self leveling Dicor, but since the van roof is at an angle, some people may choose to use Non-Self Leveling Dicor.



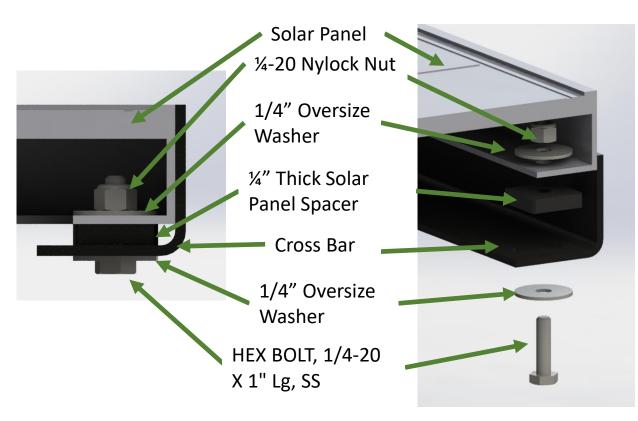
After Dicor

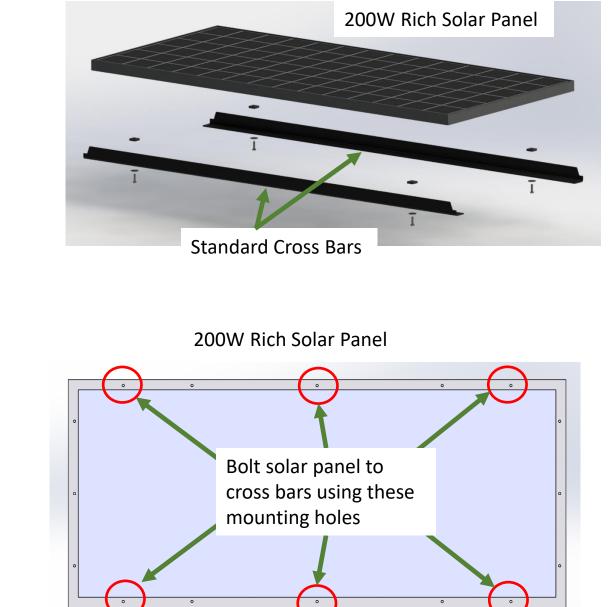


### Step 13: Install solar panels to cross bars

- 1. Bolt your solar panels to your cross bars
- 2. Install the ¼" spacers between the cross bar and the bottom of the solar panel
- 3. Center solar panels on cross bars before tightening hardware

\*\*Below: Cut away view of the solar panel showing hardware installation

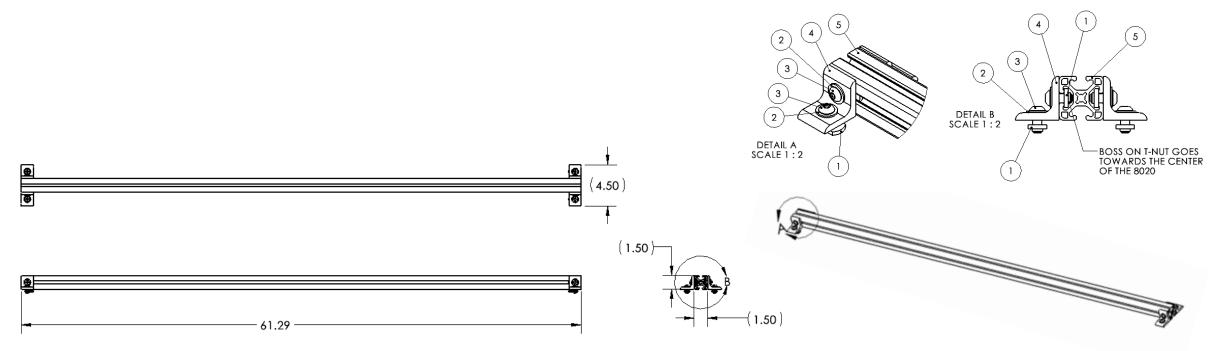




### Step 15: Assemble 15 Series 8020 Cross Bar

- 1. **\*\***USE BLUE LOCTITE 242 DURING THIS ASSEMBLY PROCESS.
- 2. BEFORE STARTING ASSEMBLY, INSERT ANY ADDITIONAL T-
- 3. NUTS INTO ANY 8020 SLOTS AS INSTALLING THEM LATER MAY BE DIFFICULT OR REQUIRE DISASSEMBLY
- 4. BOLT CORNER BRACKETS TO 8020 CROSS BAR AS SHOWN
- 5. POSITION 8020 CROSS BAR AS DESIRED ON HSLD ROOF RACK RAILS, INSERT T-NUTS INTO TOP OF 8020 SIDE RAILS
- 6. BOLT 8020 CROSS BAR TO THE TOP OF THE 8020 SIDE RAILS USING T-NUTS AND BOLTS
- 7. TORQUE TO 180 IN-LBS (15 FT-LBS)

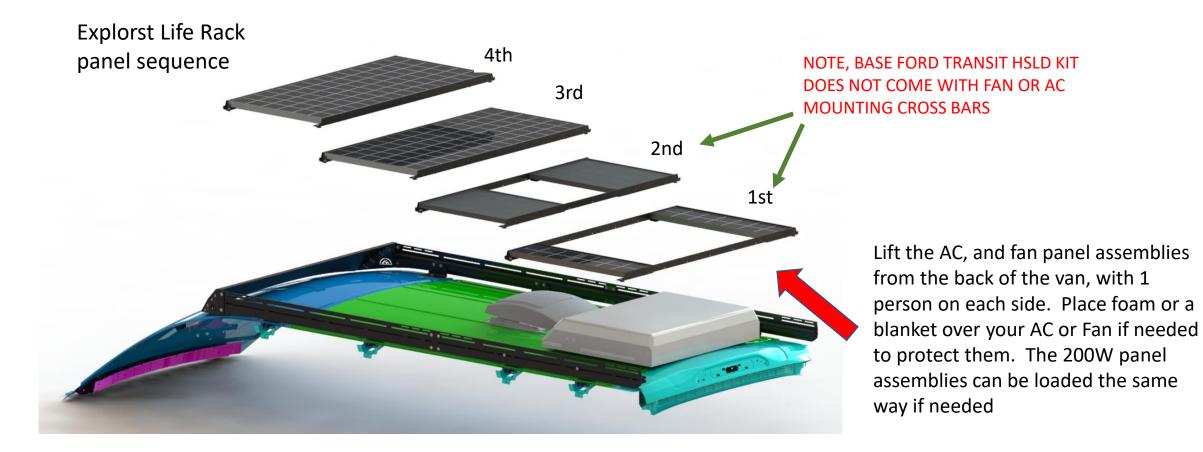
| ITEM NO. | Manufacturer   | PART NUMBER   | DESCRIPTION   | MATERIAL | QTY. |
|----------|----------------|---------------|---|----------|------|
| 1        | 8020           | 3678          | T-NUT, ECONOMY, 5/16 THREAD, SS                             | NA       | 8    |
| 2        | ANY            | 92141A030     | FLAT WASHER, 5/16" SCREW SIZE, 0.344" ID, 0.75" OD, 18-8 SS | NA       | 8    |
| 3        | ANY            | 92949A581     | BHCS, 5/16-18 X 0.75" LG, FULLY THREADED, 18-8 S.S.         | NA       | 8    |
| 4        | ANY            | BLB-1         | CORNER BRACKET, 2 HOLE, 15 SERIES, BLACK                    | NA       | 4    |
| 5        | Unaka Gear Co. | 1515-UL-BLACK | 1515-UL-BLACK-61.29   |          | 1    |



### Step 13: Solar panel install sequence

This step should be completed with 2 people using 2 ladders

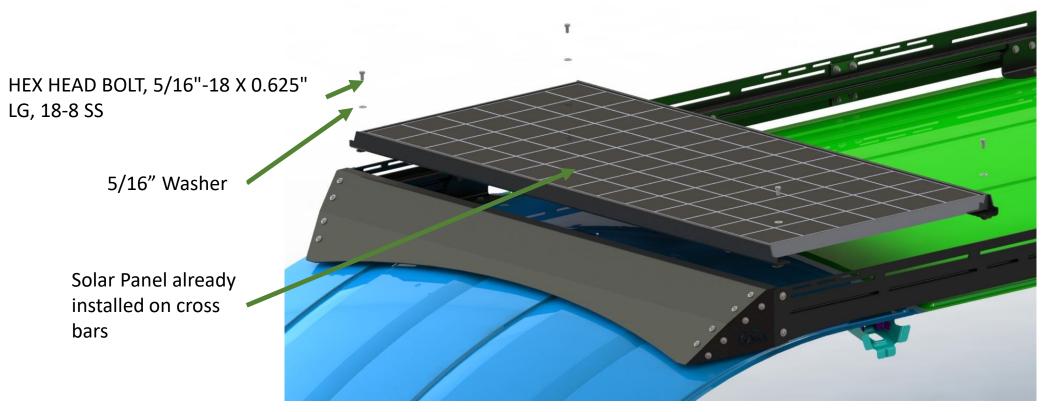
- 1. Install your solar panel assemblies in an order that makes sense for your rack
- 2. Do not bolt down the panel assemblies until all panels are on the roof
- 3. For the ExPlorist life rack using solar panel assemblies that go around the fan and AC units, we recommend installing those first, since it's a close fit around those units.



### Step 13: Install solar panel assembly to roof rack

This step should be completed with 2 people using 2 ladders

- 1. Slide all required t-nuts for all solar panels into the top channel of the 8020. Each solar panel assembly gets 2 x tnuts per side rail
- 2. Place the T-nuts in the general area that the solar panel will be installed
- 3. Carefully lift the solar panel assembly onto the rack, this should be done with 2 people to prevent damage to the solar panel, rack, or your van
- 4. Move solar panel to its final location
- 5. Repeat for the rest of the solar panels, adjust position of other panels as needed
- 6. With all panels in place, apply Loctite to the bolts, and bolt the panels in place



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